

09/702,298

MAY 07 2007

- 5 -

**REMARKS**

This Amendment After Final Rejection is being filed in response to the Final Office Action mailed from the U.S. Patent and Trademark Office on December 7, 2006 in the above-identified application. Reconsideration and further examination are requested.

Applicants appreciate the Examiner's withdrawal of the rejections based on Copeland et. al, International Application WO 91/13335, published September 5, 1991.

Claims 3-18 are pending in this application. The Examiner has maintained a rejection of Claims 3-18 under 35 U.S.C. 102(e) as being anticipated by Muller et. al, U.S. Patent No. 5,273,905, issued on December 28, 1993 ("Muller"). Independent Claims 3 and 11 have been amended for clarity. No new matter has been introduced. With the clarifying amendments, Applicants believe the rejections under Muller are traversed and reconsideration is requested.

**The Present Application**

Embodiments of the present invention relate to a microscope slide stainer and method. An illustrative embodiment is described herein without limitation. Liquid is dropped from an orifice 5 of a liquid dispenser CP (as shown in Figure 1) into the cavity 512a of a slide housing 522 (as shown in Figure 6). The slide housing 522 and the orifice 5 are capable of relative movement between each other under microprocessor control so as to align the dispenser CP with the slide. See Figure 5; page 10, lines 12-15; page 13, lines 9-19. A liquid aspirator 544 is able to remove liquid from the cavity. See page 12, line 16 to page 13, line 8; Figure 11A.

**Muller et. al, U.S. Patent No. 5,273,905**

Muller is illustrative of one class of slide processing systems. As illustrated in Fig. 5, a slide 41 is positioned in a fixed assembly to form one wall of a narrow chamber 46. As illustrated in Fig. 20, a number of reservoirs R1 through R11 and a cooling water supply 117 are

09/702,298

- 6 -

connected through fluid lines to a slide specimen chamber 112. Muller et al. also provides for both electrical and fluid temperature regulation of the stationary slide supporting block (column 18, lines 26-30).

The plumbed lines from the fluid reservoirs of Muller are not suitable for expensive reagent which must be supplied in very small amounts. The void volume for such permanently plumbed lines is much too high, and there would be the problem of cross contamination because the same lines would have to be used for different staining procedures. Thus, the plumbed lines of Muller are only satisfactory for bulk liquids such as buffers. To address that shortcoming, Muller allows for the use of a hyperdermic needle to inject fluid into the chamber 46 through a channel 91. (See column 5, lines 43-50 and column 19, lines 7-39.) The syringe is shown in phantom in Figure 2 and described in column 19, lines 21-39.

Because of the need for a manual syringe to apply microvolumes of a reagent, Muller is not suitable for fully automated, walkaway processing of samples and slides. Another class of microscope slide processing systems is represented by embodiments of the claimed invention. In such systems, the microscope slides are positioned on a carousel which allows individual slides to be moved into position below a dispensing station from which a microvolume of a reagent may be applied. Other stations allow for washing with bulk solutions, extraction of fluids and the like. It is to such systems, which allow for convenient microvolume fluidic handling, to which the present invention is directed.

#### **The Present Invention Is Not Anticipated by Muller**

##### **A. Standard Under 35 U.S.C. § 102**

Anticipation under 35 U.S.C. § 102 requires identical disclosure of the claimed invention in the prior art. See *Gechter v. Davidson*, 116 F.3d 1454, 1457, 43 USPQ2d 1030, 1032 (Fed. Cir. 1997) ("Under 35 U.S.C. § 102, every limitation of a claim must identically appear in a single prior art reference for it to anticipate the claim."). "Every element of the claimed invention must be literally present, arranged as in the claim." *Richardson v. Suzuki Motor Co., Ltd.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed. Cir. 1989).

09/702,298

- 7 -

B. The Present Application Claims Relative Movement Between A Dispenser Orifice And A Cavity Of A Slide Housing; Muller Teaches A Dedicated Orifice Fixed To A Slide Housing Or To A Cavity

The present claims are directed to a slide stainer and method in which liquid is dropped from an orifice of a liquid dispenser into the cavity of a slide housing. The claimed invention is exemplified by amended independent Claim 3. For convenience, that claim is reproduced here.

3. A microscope slide stainer comprising:
  - a slide housing into which at least one microscope slide is inserted, said housing having a cavity into which liquids are dispensed, the cavity containing a sufficient volume of liquid to cover the at least one microscope slide;
  - a liquid dispenser including an orifice from which liquid drops into the cavity, said dispenser orifice and cavity being capable of relative movement between each other under microprocessor control so as to align the dispenser with a slide; and
  - a liquid aspirator, said aspirator being capable of removing liquid from the cavity.

As discussed in more detail below, Muller fails to disclose "a liquid dispenser including an orifice . . . said dispenser orifice and cavity being capable of relative movement between each other under microprocessor control. . . so as to align the dispenser with a slide."

In the Final Office Action, the Examiner states that Muller teaches "microprocessor control of both the heating and movement of the sample to chambers of different volumes based upon desired analysis," citing Column 4, line 4 and onward. As Applicants have indicated in a prior Response, the cited passage does not teach "a [dispenser] orifice and slide housing being capable of relative movement between each other under microprocessor control so as to align the dispenser with a slide."

First, Muller discloses a system where slide processing modules are manually inserted into a system, whereby the "volumes of treating fluids" can be directed to each module through its own dedicated delivery conduit by control of a system of distribution valves. These lines are permanently plumbed from the fluid reservoirs having stationary sample chambers to the cavity

09/702,298

- 8 -

of a slide housing. See Fig. 20. The cavity of the slide housing is a closed, sealed stationary chamber. The closed, sealed, stationary chambers of Muller makes it incompatible with and teach away from the open approach of the present invention wherein "a [dispenser] orifice and slide housing being capable of relative movement between each other under microprocessor control."

The Examiner has cited Figures 16 and 17 of Muller in arguing that the "fluid transfer line" 232 moves relative the slide housing (or as stated by the Examiner "block 212"). However, it appears from the cited Figures that the cavity (234) into which liquids are dispensed is created by the block 216 from which the fluid transfer line connects. The fluid transfer line in Muller is either part of the "cavity" and thus there cannot be relative movement between the "dispenser orifice and cavity", or the slide housing of Muller does not have a "cavity into which liquids are dispensed." As stated above, Muller involves a closed liquid transport system, whereas embodiments of the claimed invention feature an open liquid transport system wherein a liquid dispenser can move from a slide cavity under microprocessor control. The claims have been amended to clarify that the liquid dispenser and the cavity of the slide housing are in relative movement. Therefore, because Muller fails to disclose a "dispenser orifice and cavity being capable of relative movement between each other" of Claims 3 and 11, Applicants respectfully submit that Claims 3 and 11, and claims dependent therefrom, are in condition for allowance.

09/702,298

RECEIVED  
CENTRAL FAX CENTER

MAY 07 2007

- 9 -

CONCLUSION

In view of the above amendments and remarks, it is believed that all claims are in condition for allowance, and it is respectfully requested that the application be passed to issue. If the Examiner feels that a telephone conference would expedite prosecution of this case, the Examiner is invited to call the undersigned.

Respectfully submitted,

HAMILTON, BROOK, SMITH & REYNOLDS, P.C.

By

F. James Coe

Registration No. 46,630

Telephone: (978) 341-0036

Facsimile: (978) 341-0136

Concord, MA 01742-9133

Date: May 7, 2007